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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/497,474	02/04/2000	Kazuyuki Kazami	105356	7536

25944 7590 03/24/2004

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EXAMINER

HENN, TIMOTHY J

ART UNIT	PAPER NUMBER
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2612

DATE MAILED: 03/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/497,474

Applicant(s)

KAZAMI, KAZUYUKI

Examiner

Timothy J Henn

Art Unit

2612

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) 3-5 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 6 and 7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 February 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of restriction in Paper No. 4 is acknowledged. The traversal is on the ground(s) that "a thorough search for the subject matter of an one Group of claims would encompass a search for the subject matter of the remaining claims". This is not found persuasive because the two claim sets contain mutually exclusive subject matters (i.e. first and second storage devices and a control device to search for an image in the first device, and if not found in the first device, further looks in the second device in group 1; and continuous and single shot modes which store and reproduce images from a single volatile storage device when in continuous mode in group 2). Therefore, the groups do not require performing both searches during the examination of a single group (i.e. a search for multiple shoot modes is not required for group 1 and a search for multiple storage devices is not required for group 2) and the requirement is still deemed proper and is therefore made FINAL.
2. Claim 3-5 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 5.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 2, 6 and 7 rejected under 35 U.S.C. 103(a) as being unpatentable over Swayze (US 6,519,003) in view of Harari et al. (US 5,297,148).

[claim 1]

6. In regard to claim 1, note that Swayze discloses an electronic camera comprising an image capturing device (Figure 1, Item 44) that performs photoelectric conversion on a subject image formed by a photographic optical system (Figure 1, Item 42); outputs the image data, an image display device (Figure 1, Item 60) that displays an image based upon the image data and a second storage device (Figure 1, Item 48) which achieves a second access speed and a reproduction mode for displaying image data at the image display device (Column 4, Lines 22-29). Therefore, it can be seen that Swayze lacks a first storage device which achieves a first access speed faster than the second access speed and a control device that, if image data for display are present in the first storage device when an image reproduction mode for displaying image data is set, displays an image based upon the image data in the first storage device at the image display device, and if the image data for display are not present in the first storage device, displays an image based upon image data in the second storage device at the image display device.

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7. Harari et al. teaches that read caches are typically implemented to speed up performance of systems having slower access devices. The read caches operate in such a way that when data is needed, it may be obtained from the fast cache or "first storage device" instead of the slower secondary memory device or "second storage device" (Column 12, Line 63 - Column 13, Line 10). Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement a read cache in the camera of Swayze to speed up memory reads from the flash memory device. The office notes that in such a system a control device would inherently look to the faster cache memory first when an image is to be displayed, and if the image is not found in the cache, would then search in the flash memory device for the image data.

[claim 2]

8. In regard to claim 2, note that the second storage device of Swayze is a non-volatile storage device (Figure 1, Item 48). Therefore, it can be seen that Swayze in view of Harari et al. lacks a first storage device which is a volatile storage device. However, it is well known in the art to use volatile memory for cache systems since they do not require any long term storage (Official Notice). Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to use volatile memory for the first storage device to take advantage of the cost, speed and high memory density of volatile memory technologies which are commonly available such as DRAM.

[claim 6]

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9. In regard to claim 6, note that Swayze discloses an image processing apparatus comprising an image capturing device (Figure 1, Item 44) that performs photoelectric conversion on a subject image formed by a photographic optical system (Figure 1, Item 42); outputs the image data, an image display device (Figure 1, Item 60) that displays an image based upon the image data and an image storage device (Figure 1, Item 48) that holds the data even when power to the image processing apparatus is turned off and a reproduction mode for displaying image data at the image display device (Column 4, Lines 22-29). Therefore, it can be seen that Swayze lacks a temporary storage device that temporarily stores the image data and a control device that, if image data for display are present in the temporary storage device when an image reproduction mode for displaying image data is set, displays an image based upon the image data in the first storage device at the image display device, and if the image data for display are not present in the first storage device, displays an image based upon image data in the image storage device at the image display device.

10. Harari et al. teaches that read caches are typically implemented to speed up performance of systems having slower access devices. The read caches operate in such a way that when data is needed, it may be obtained from the fast cache or "temporary storage device" instead of the slower secondary memory device or "image storage device" (Column 12, Line 63 - Column 13, Line 10). Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement a read cache in the camera of Swayze to speed up memory reads from the flash memory device. The office notes that in such a system a control device would

inherently look to the faster cache memory first when an image is to be displayed, and if the image is not found in the cache, would then search in the flash memory device for the image data.

[claim 7]

11. In regard to claim 7, note that the access time of the cache memory or "temporary storage device" is shorter than the access time of the secondary storage device or "image storage device" of Harari et al. (Column 12, Lines 63-68).

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following prior art further shows the current state of the art in cameras with dual storage devices:


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|-----|-----------------|--------------|
| i. | Nagasaki et al. | US 5,153,730 |
| ii. | Lee | US 6,674,467 |

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J Henn whose telephone number is (703) 305-8327. The examiner can normally be reached on M-F 7:30 AM - 5:00 PM, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy R Garber can be reached on (703) 305-4929. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TJH
3/9/2004



NGOC-YEN VU
PRIMARY EXAMINER